

## **ISE100: Computer and Information Technology Fundamentals**

Credit Hours: 4

Prerequisites: None

### **Course Description**

This course provides students with a solid foundation in basic computer concepts, networking, and the Internet as well as a broad understanding of the structure of Information Systems, databases, programming and E-commerce. This course also provides an overview of the history and evolution of information technology, careers in information technology and professional ethics.

### **Instructor Contact Information**

|                  |                                     |
|------------------|-------------------------------------|
| Instructor Name  | Gerard Arthus                       |
| Instructor Email | Garthus801@gmail.com                |
| Instructor Phone | Home 574-217-8726 Cell 631-335-5250 |

### **Course Length**

The college evaluates each course in terms of quarter hours of credit. One unit of credit is usually equivalent to a minimum of ten academic instruction hours of lecture and examination, twenty hours of skill development, or thirty hours of externship, or a combination of the three. An academic instructional hour is fifty minutes.

This class will meet for the equivalent of a minimum of 55 instructional hours or as otherwise scheduled by the college and at least in conformance with this minimum and the Syllabus. As specified by the Method of Instruction section of this Outline, the instructor will ensure that the total class sessions presented consist of a minimum of 27.5 direct faculty instruction hours and a maximum of 27.5 appropriate classroom activity hours.

All course offerings require outside preparation time, which is approximately two hours per lecture instructional hour and/or one hour per skill development instructional hour, depending on the background, interest, abilities, and motivation of the individual student.

### **Course Objectives**

By the end of this course, you should be able to:

1. Understand digital devices, digital data representation, and digital processing.
2. Understand and describe the hardware components of a personal computer.
3. Understand and describe the roles of microprocessors, memory, storage devices and input/output devices.
4. Understand and describe basic hardware security measures.
5. Understand basic computer software and how computer software interacts with computer hardware.
6. Understand and describe important considerations when purchasing computer software.
7. Install and upgrade application software.
8. Understand and describe the importance of security software and describe important considerations when purchasing security software.
9. Understand and describe the basic functions of Operating Systems.
10. Understand and utilize the hierarchical file system and file management and file system maintenance strategies.
11. Understand, plan and perform backups.
12. Understand basic networking theory and concepts for wired and wireless networks.

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13. Understand basic wireless network security measures.
14. Understand the Internet Technology and fixed, portable and mobile Internet access.
15. Understand and describe Internet services and Internet security.
16. Understand Word Wide Web technology and architecture and the role that the World Wide Web plays in E-commerce.
17. Understand and employ best practices in the use of E-mail.
18. Describe different types of digital media and the concept of Digital Rights and Digital Rights Management.
19. Understand the difference between vector and 3-D graphics.
20. Describe the history and evolution of the information industry and the evolution of professional ethics.
21. Understand and describe an Information System and the Information System life cycle model.
22. Understand and describe basic database concepts and how structured query language is used to manipulate and maintain data.
23. Understand and describe basic programming concepts. Distinguish between procedural, object-oriented and declarative programming.

## Gradebook

A student's performance in this course will be evaluated using a variety of factors listed below. Instructors must use a minimum of three (**homework, tests and a final exam are required**), and it is recommended that instructors use all five of the areas in your evaluation.

The exact weight to be given to any particular area is determined by the instructor and will normally fall within the ranges listed below.

| Area                   | Percentage for this Course | Suggested Range |
|------------------------|----------------------------|-----------------|
| Final Exam             | 25%                        | 20 – 25%        |
| Tests                  | 40%                        | 20 – 40%        |
| Homework               | 15%                        | 10 – 15%        |
| Project/Research Paper | 10%                        | 20 – 25%        |
| Class Participation    | 10%                        | 10 – 15%        |
| TOTAL                  | 100%                       |                 |

| Letter Grade | Points     | Explanation   |
|--------------|------------|---------------|
| A            | 94-100     | Excellent     |
| B            | 84-93      | Above Average |
| C            | 74-83      | Average       |
| D            | 64-73      | Below Average |
| F            | 63 & Below | Failure       |

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## Textbook & Instructional Material

Comprehensive Computer Concepts 2013, June Jamrich Parsons and Dan Oja, Course Technology-Cengage Learning

The instructor might utilize additional instructional materials as provided by the publisher.

## Course Outline

**Term: 133**

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| <b>Class Date:</b> <u>Week 1 - 12 February 2013</u><br><b>Chapter 1:</b> <i>Computers and Digital Basics</i>   | <b>Homework Due Date:</b> <u>The end of the term.</u>  |
| <b>In Class Activities</b>   | <b>Homework</b>  |
| <u>Discuss the introductory materials concerning Systems, Knowledge, Problem Solving and how we learn.</u><br><br><u>Review this week's chapter reading materials.</u><br><br><u>Do assigned quiz.</u> | <u>Post a reply to the discussion forum located on the web-assist site for this week.</u><br><br><br><u>Complete all of the readings for this week posted on the web-assist site.</u><br><br><br><u>Review the Videos and tutorials posted on the web-assist site for this week</u><br><br><br><u>Complete the homework assignment posted for this week.</u> |
| <b>Class Date:</b> <u>Week 2 - 19 February 2013</u><br><b>Chapter 2:</b> <i>Computer Hardware</i>  | <b>Homework Due Date:</b> <u>The end of the term.</u>  |
| <b>In Class Activities</b>   | <b>Homework</b>  |

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| <u>Review this week's chapter reading materials.</u><br><br><u>Do assigned quiz.</u>     | <u>Post a reply to the discussion forum located on the web-assist site for this week.</u><br><br><u>Complete all of the readings for this week posted on the web-assist site.</u><br><br><u>Review the Videos and tutorials posted on the web-assist site for this week</u><br><br><u>Complete the homework assignment posted for this week.</u> |
| <b>Class Date:</b> <u>Week 3 - 26 February 2013</u><br><b>Chapter 3: <i>Software</i></b> | <b>Homework Due Date:</b> <u>The end of the term.</u>  |
| <b>In Class Activities</b>   | <b>Homework</b>  |
| <u>Review this week's chapter reading materials.</u><br><br><u>Do assigned quiz.</u>     | <u>Post a reply to the discussion forum located on the web-assist site for this week.</u><br><br><u>Complete all of the readings for this week posted on the web-assist site.</u><br><br><u>Review the Videos and tutorials posted on the web-assist site for this week</u>  |

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|  | <u>Complete the homework assignment posted for this week.</u>  |
| <b>Class Date:</b> <u>Week 4 – 05 March 2013</u><br><b>Chapter 4: <i>Operating Systems and File Management</i></b> | <b>Homework Due Date:</b> <u>The end of the term.</u>  |
| <b>In Class Activities</b>   | <b>Homework</b>  |
| <u>Review this weeks chapter reading materials.</u><br><br><u>Do assigned quiz.</u>                                | <u>Post a reply to the discussion forum located on the web-assist site for this week.</u><br><br><u>Complete all of the readings for this week posted on the web-assist site.</u><br><br><u>Review the Videos and tutorials posted on the web-assist site for this week</u><br><br><u>Complete the homework assignment posted for this week.</u> |
| <b>Class Date:</b> <u>Week 5 – 12 March 2013</u><br><b>Chapter 5: <i>Local Area Networks</i></b>                   | <b>Homework Due Date:</b> <u>The end of the term.</u>  |

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| In Class Activities  | Homework   |
|--|--|
| <u>Review this weeks chapter reading materials.</u><br><br><u>Do assigned quiz.</u>  | <u>Post a reply to the discussion forum located on the web-assist site for this week.</u><br><br><u>Complete all of the readings for this week posted on the web-assist site.</u><br><br><u>Review the Videos and tutorials posted on the web-assist site for this week</u><br><br><u>Complete the homework assignment posted for this week.</u> |
| <b>Class Date:</b> <u>Week 6 – 19 March 2013</u><br><b>Chapter 6: <i>The Internet</i></b>  | <b>Homework Due Date:</b> <u>The end of the term.</u>  |
| In Class Activities  | Homework   |
| <u>Review this weeks chapter reading materials.</u><br><br><u>Do assigned quiz. Review this weeks chapter reading materials.</u> | <u>Post a reply to the discussion forum located on the web-assist site for this week.</u><br><br><u>Complete all of the readings for this week posted on the web-assist site.</u><br><br><u>Review the Videos and tutorials posted on the web-assist site for this week</u>  |

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|   | <u>Complete the homework assignment posted for this week.</u>  |
| <b>Class Date:</b> <u>Week 7 – 26 March 2013</u><br><b>Chapter 7: <i>The Web and E-Mail</i></b> | <b>Homework Due Date:</b> <u>The end of the term.</u>  |
| <b>In Class Activities</b>  | <b>Homework</b>  |
| <u>Review this weeks chapter reading materials.</u><br><br><u>Do assigned quiz.</u>             | <u>Post a reply to the discussion forum located on the web-assist site for this week.</u><br><br><u>Complete all of the readings for this week posted on the web-assist site.</u><br><br><u>Review the Videos and tutorials posted on the web-assist site for this week</u><br><br><u>Complete the homework assignment posted for this week.</u> |
| <b>Class Date:</b> <u>Week 7 – 26 March 2013</u><br><b>Chapter 8: <i>Digital Media</i></b>      | <b>Homework Due Date:</b> <u>The end of the term.</u>  |
| <b>In Class Activities</b>  | <b>Homework</b>  |
| <u>Review this weeks chapter reading materials.</u>   | <u>Post a reply to the discussion forum located on the</u>   |

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| <u>Do assigned quiz.</u>  | <u>web-assist site for this week.</u><br><br><u>Complete all of the readings for this week posted on the web-assist site.</u><br><br><u>Review the Videos and tutorials posted on the web-assist site for this week</u><br><br><u>Complete the homework assignment posted for this week.</u>   |
| <b>Class Date:</b> <u>Week 8 – 02 April 2013</u><br><b>Chapter 9: <i>The Computer Industry: History, Careers and Ethics</i></b> | <b>Homework Due Date:</b> <u>The end of the term.</u>  |
| <b>In Class Activities</b>  | <b>Homework</b>  |
| <u>Review this weeks chapter reading materials.</u><br><br><u>Do assigned quiz.</u>   | <u>Post a reply to the discussion forum located on the web-assist site for this week.</u><br><br><u>Complete all of the readings for this week posted on the web-assist site.</u><br><br><u>Review the Videos and tutorials posted on the web-assist site for this week</u><br><br><u>Complete the homework assignment posted for this week.</u> |



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| <b>Class Date:</b> <u>Week 8 – 02 April 2013</u><br><b>Chapter 10: <i>Information Systems Analysis and Design</i></b> | <b>Homework Due Date:</b> <u>The end of the term.</u>  |
| <b>In Class Activities</b>  | <b>Homework</b>  |
| <u>Review this weeks chapter reading materials.</u><br><br><u>Do assigned quiz.</u>                                   | <u>Post a reply to the discussion forum located on the web-assist site for this week.</u><br><br><u>Complete all of the readings for this week posted on the web-assist site.</u><br><br><u>Review the Videos and tutorials posted on the web-assist site for this week</u><br><br><u>Complete the homework assignment posted for this week.</u> |
| <b>Class Date:</b> <u>Week 9 – 09 April 2013</u><br><b>Chapter 11: <i>Databases</i></b>                               | <b>Homework Due Date:</b> <u>The end of the term.</u>  |
| <b>In Class Activities</b>  | <b>Homework</b>  |
| <u>Review this weeks chapter reading materials.</u>   | <u>Post a reply to the discussion forum located on the</u>   |

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| <u>Do assigned quiz.</u>   | <u>web-assist site for this week.</u><br><br><u>Complete all of the readings for this week posted on the web-assist site.</u><br><br><u>Review the Videos and tutorials posted on the web-assist site for this week</u><br><br><u>Complete the homework assignment posted for this week.</u>   |
| <b>Class Date:</b> <u>Week 9 – 09 April 2013</u><br><b>Chapter 12: <i>Computer Programming</i></b> | <b>Homework Due Date:</b> <u>The end of the term.</u>  |
| <b>In Class Activities</b>   | <b>Homework</b>  |
| <u>Review this weeks chapter reading materials.</u><br><br><u>Do assigned quiz.</u>                | <u>Post a reply to the discussion forum located on the web-assist site for this week.</u><br><br><u>Complete all of the readings for this week posted on the web-assist site.</u><br><br><u>Review the Videos and tutorials posted on the web-assist site for this week</u><br><br><u>Complete the homework assignment posted for this week.</u> |

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**This course has an in-class final exam. Final exam date:** 16 April 2013

**Additional Final Exam Information:** There will be a final project and final exam

## **Method of Instruction**

Instructional techniques must be appropriate, and at a collegiate level, to the specific goals and objectives cited above. Students and instructors must have a clear understanding of the goals and time requirements of this course, the nature of the course context, and method of evaluation.

This course has two distinct but related instructional phases. The first component constitutes a minimum of 27.5 direct faculty instruction hours. This component is the lecture series and provides instruction in theory, principles or practices of the course. The second component constitutes a maximum of 27.5 appropriate classroom activity hours. This component is the skill development phase of the course and provides students the opportunity to apply knowledge gained in the lecture series. Method of instruction must fulfill the intended learner outcomes and competencies stated in the course goals and objectives and are appropriate to the capabilities of the students. For career oriented courses, the instructor must demonstrate that an effective relationship exists between curricular content and current practices in the field.

## **Additional Class Notes**

Go to <http://www.openeducation.org/moodle> to use the web-assisted site for this course. Quizzes and discussion forums will be completed on-line at this site; and all other assignments will be uploaded there. If you have any questions please contact the instructor.